ODTU-Bilkent Algebraic Geometry

Burau Monodromy Groups of Trigonal Curves

By

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Abstract: For a trigonal curve on a Hirzebruch surface, there are several notions of monodromy ranging from a very coarse one in S_3 to a very fine one in a certain subgroup of Aut(F_3), and one group in this range is PSL(2,Z). Except for the special case of isotrivial curves, the monodromy group (the subgroup generated by all monodromy actions) in PSL(2,Z) is a subgroup of genus-zero and conversely any genus-zero subgroup is the monodromy group of a trigonal curve (This is a result of Degtyarev).
A slightly finer notion in the same range is the monodromy in the Burau group Bu_3. The aforementioned result of Degtyarev imposes obvious restrictions on the monodromy group in this case but without a converse result. Here we show that there are additional non-obvious restrictions as well and, with these restrictions, we show the converse as well.

Date: 29 April 2022, Friday
Time: 15:40 (GMT+3)
Place: Zoom

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